Applicant: Gil LaVean **Application No.:** 09/653,057

IN THE CLAIMS

1. - 31. (Carceled).

32. (Newly Amended) A method for geographically locating a mobile terminal within a wireless CDMA communication system having base stations with fixed locations, the method comprising:

transmitting from a plurality of base stations a first spread spectrum signal having an associated code;

receiving of the first spread spectrum signals at the mobile terminal;

for each received first spread spectrum signal, transmitting a second spread spectrum signal having an associated code time synchronized with that received first spread spectrum signal from the mobile terminal, wherein the synchronizing of the associated code of the second spread spectrum signal with that received first spread spectrum signal is by despreading that received first spread spectrum signal using the first spread spectrum signal associated code of the first spread spectrum signal lock loop, and adjusting a timing of the first spread spectrum signal associated code of the first spread spectrum signal associated code of the first spread spectrum signal associated code of the first spread spectrum signal used for despreading and a clock pulse in response to the delay lock loop, and adjusting a timing of the associated code of the second spread spectrum signal in response to the adjusted timing of the clock pulse



Application No.: 09/653,057

and the first spread spectrum signal associated code of the first spread spectrum

<u>signal;</u>

receiving the second spread spectrum signals at the plurality of base stations;

determining a delay between each base station and the mobile terminal

based on in part a received timing of the second signals, wherein the determining a

delay between each base station and the mobile terminal is by despreading that

received second spread spectrum signal using the second spread spectrum signal

associated code of the second spread spectrum signal, processing that despread

received second spread spectrum signal by a delay lock loop, and adjusting a timing

of the second spread spectrum signal associated code of the second spread spectrum

signal used for despreading in response to the delay lock loop, and comparing a

timing of the time adjusted second spread spectrum signal associated code of the

second spread spectrum signal and the first spread spectrum signal associated code

of the first spread spectrum signal; and

determining the mobile terminal's geographic location based on in part the

determined round trip delay information delays between the mobile terminals

terminal and each base station.

(Previously Added) The method of claim 32 wherein the determining of 33

the mobile terminal's geographic location is performed at the mobile terminal.

-3-

Application No.: 09/653,057

34. (Previously Added) The method of claim 32 wherein the base stations

are time synchronized with each other.

35. (Previously Amended) The method of claim 33 further comprising each

base station transmits the determined delay between the mobile terminal and that

base station.

36. (Previously Amended) The method of claim 35 further comprising the

mobile terminal receiving the transmitted determined delays.

37. (Newly Amended) A mobile terminal for use in a wireless CDMA

communication system having a plurality of base stations, each base station

transmitting a first spread spectrum signal having an associated code, the mobile

terminal comprising:

means for receiving the first spread spectrum signals at the mobile terminal;

means for each received first spread spectrum signal, transmitting a second

spread spectrum signal having an associated code time synchronized with that

received first spread spectrum signal, whereby enabling each base station to make a

delay determination, wherein the synchronizing of the associated code of the second

spread spectrum signal with that received first spread spectrum signal is by

-4-

Application No.: 09/653,057

despreading that received first spread spectrum signal using the first spread

spectrum signal associated code of the first spread spectrum signal, processing that

despread received first spread spectrum signal by a delay lock loop, and adjusting a

timing of the first spread spectrum signal associated code of the first spread

spectrum signal used for despreading and a clock pulse in response to the delay lock

loop, and adjusting a timing of the associated code of the second spread spectrum

signal in response to the adjusted timing of the clock pulse and the first spread

spectrum signal associated code of the first spread spectrum signal;

means for receiving the delay determination from each base station; and

means for determining the mobile terminal's geographic location based on in

part the delay determinations round trip delay information.

38. (Previously Added) The mobile terminal of claim 37 wherein the first

and second spread spectrum signals are pilot signals.

39. (Newly Amended) A wireless CDMA system for geographically locating

a mobile terminal, the system comprising:

a plurality of base stations with fixed locations, each base station comprising:

means for transmitting a first spread spectrum signal having an

associated code;

-5-

Application No.: 09/653,057

means for receiving a second spread spectrum signal having an

associated code;

means for determining a delay between the mobile terminal and that

base station based on in part a received timing of the received second signal; and

means for transmitting the delay determination to the mobile

terminal; and

the mobile terminal comprising:

means for receiving the first spread spectrum signals at the mobile

terminal;

means for each received first spread spectrum signal, transmitting the

second spread spectrum signal having its associated code time synchronized with

that received first spread spectrum signal, wherein the synchronizing of the

associated code of the second spread spectrum signal with that received first spread

spectrum signal is by despreading that received first spread spectrum signal using

the first spread spectrum signal associated code of the first spread spectrum signal,

processing that despread received first spread spectrum signal by a delay lock loop,

and adjusting a timing of the first spread spectrum signal associated code of the

first spread spectrum signal used for despreading and a clock pulse in response to

the delay lock loop, and adjusting a timing of the associated code of the second

-6-

Applicant: Gil LaVean Application No.: 09/653,057

spread spectrum signal in response to the adjusted timing of the clock pulse and first spread spectrum signal the associated code of the first spread spectrum signal;

means for receiving the delay determination from each base station; and

means for determining the mobile terminal's geographic location based on in part the delay determinations round trip delay information.

40. (Previously Added) The system of claim 39 wherein the base stations are time synchronized with each other.